



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of )  
Nestor Kolcio, et al. )  
Serial No.09/954,788 ) Examiner Katherine M. Moran  
Filed: September 18, 2001 ) Group Art Unit 3765  
For: "Method for Accessing Electrical )  
Components with Gloved Hands" )

COMMISSIONER OF PATENTS  
WASHINGTON, D.C. 20231

DECLARATION UNDER 37 CFR 1.132

Nestor Kolcio declares as follows:

- 1) That he is a citizen of the United States of America and has a residence at 11500 Jerome Road, Plain City, Ohio 43064;
- 2) That he is an inventor named in the above-identified application for United States patent;
- 3) That he has been professionally involved in the subject matter of power generation technology including high voltage practices, insulation coordination, and the development of international standards with respect to such matters for over forty years;
- 4) That his general resume outlining his professional experience is annexed hereto as Exhibit A;
- 5) That his resume with respect to professional experience related to personal protective equipment in the electric power industry is annexed hereto as Exhibit B;
- 6) That he has been advised that claims 1, 6-8, 13 and 14 of the above-identified application have been rejected under § 103(a) of the Patent Statute as being unpatentable over Barnett, et al., U. S. Patent No. 4,536,890 (hereinafter Barnett, et al.);
- 7) That in applying the rejection the Examiner has stated that Barnett, et al., teaches a method of using a rubber, insulating glove with a non-conductive adhesively retained flock for accessing low voltage electrical components;
- 8) That he has reviewed Barnett, et al., and observes that the patent describes a glove intended for use in the assembly of electronic equipment in a clean room environment;
- 9) That Barnett, et al., does not describe the glove 10 as being insulating and does not describe the utilization of a non-conductive adhesively retained flock;
- 10) That claim 1 describes the provision of a tightly fitting rubber insulating glove which is not described in Barnett, et al.;
- 11) That claim 1 describes a lining of the glove with a non-conductive adhesively retained flock effective to facilitate removal of the glove from the hand;

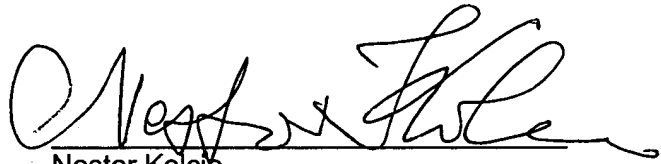
- 12) That Barnett, et al., describes a manufacturing environment for use of a glove wherein the glove would not be removed;
- 13) That Barnett, et al., teaches a glove structuring which is not intended to be removed and which is intended to be comfortable so as to avoid glove removal from the hand, whereas claim 1 describes a step of periodically removing the glove from the gloved hand to cool and remove moisture from the hand and glove;
- 14) That Barnett, et al., does not teach nor suggest the utilization of a glove which, in the first instance, because of its necessary electrical insulative qualities will be uncomfortable and will be removed by the user;
- 15) That he is advised that the Examiner has indicated that it would have been obvious at the time of the invention to use the glove of Barnett, et al., for accessing electrical components energized at voltages of less than about 500 volts rms or less than about 1000 volts rms to assure maximum protection;
- 16) That Barnett, et al., inter alia, does not suggest the utilization of the glove described therein for accessing higher voltage electrical equipment;
- 17) That Barnett, et al., describes a polyvinyl chloride material as a possible glove material, a material not suitable for achieving requisite electrical insulation quality;
- 19) That Barnett, et al., does not suggest a method employing an electrically insulative tight fitting glove;
- 21) That he has been advised that claims 2-5, and 9-12 have been rejected under §103(a) of the Patent Statute as being unpatentable over Barnett, et al., in view of Ganz, U. S. Patent No. 3,883,899 (hereinafter "Ganz");
- 22) That in applying this rejection, he has been advised that the Examiner has stated that Ganz teaches a rubber glove with ridges on an exterior inward fingertip and palm region for enhancing, gripping and tactile properties;
- 24) That he has reviewed Ganz and observes that the glove described therein is not insulating with respect to work on an electrical system;
- 25) That he has observed that the type of roughening taught by Ganz is to create craters with ridges about those craters a form of roughening which, for the claimed method at hand, would collect contaminants from the equipment being worked on;
- 26) That the craters formed in the Ganz glove will retain dirt-like contaminants and defeat the necessary dielectric strength of the gloves for the method claimed;
- 27) That the ridge technique for roughening the fingertip regions as now claimed do not detract from the dielectric strength of the gloves by reducing their thicknesses as represented in Ganz;
- 28) That the surgical gloves described in Ganz are not intended to be removed from the hand in the course of their intended use;

- 29) That in contrast, the claimed method anticipates that the gloves will be removed in the course of their use in accessing electrical equipment held at higher voltages;
- 30) That it is his considered opinion that the combination of Ganz with Barnett, et al., would not suggest the method taught and claimed in the instant application; and
- 31) That all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like, so made, are punishable by fine, or imprisonment, or both, under § 1001 of Title 18, and that such willful false statements may jeopardize the validity of the application or any document resulting therefrom.

Further Declarant sayeth naught.

Date

Sep 19, 2002

  
Nestor Kolcio

RESUME

NESTOR KOLCIO, PE

EDUCATION:

BSEE - West Virginia Institute of Technology, 1962. Postgraduate courses in EE - Columbia University, New York, NY 1963-64. Power Technology Course, PTI, NYCity, 1971-74. Professional Engineer, CA license No. SF 2204

EXPERIENCE

Present: Senior Consultant, 2K Consultants, Inc.. One of the founders of 2 KCI. The Company provides consulting services to the electronics and electric power industry. Mr. Kolcio consults in the areas of: maintenance engineering, safety rules and practices, insulation coordination, high voltage practices, standards and regulations, and litigations.

Present: President Kub Electronics Inc.. One of the founders of Kub Electronics Inc.. The Company is dedicated to provide engineering and high technical services to commercial customers, federal and state agencies.

1989 -  
2000

AEP. Mr Kolcio became Principal Engineer in the Electrical Research Section of the Research and Equipment Division with responsibilities to consult and supervise work dealing with Safety Practices, Electrical Maintenance Engineering, High Voltage practices related to electric field and corona effects and insulation coordination. He has been consulting to the AEP Service Corporation and the former AEP Operating Companies on the above subjects. As a member of the System Safety Manual Revision Committee, he is involved in review and comment on the electrical aspects of safety rules, work practices and accident reports. In the area of maintenance engineering, Mr. Kolcio has been leading a research and development effort to design new tools and cover-up equipment for live line work. This has resulted in promoting and issuing guidelines for electrical tests and operating procedures dealing with insulated aerial lifts, live line tools and protective equipment.

Mr. Kolcio has helped a former AEP Operating Company by providing testimony on high voltage corona and electric field effects during rights-of-way easement litigation. Also, as an AEP representative, he has testified for EEI on clearances during Public Hearings on OSHA's proposed "Maintenance Standard".

Mr. Kolcio serves as an IEEE PES representative on ANSI C63 Committee "Electromagnetic Compatibility" (EMC) and is a member of US Advisory Group on IEC TC 77 Committee "Electromagnetic Compatibility Between Electrical Equipment Including Networks". Both

ANSI and IEC committees are preparing and issuing standards on testing and measurements (including limits) of EMC.

#### 1976 - 1988

AEP. As a Senior Electrical Research Engineer, Mr. Kolcio's responsibility was to conduct work related to: a) Safety b) Electrical Maintenance Engineering c) High Voltage Practices Related to Electric Field and Corona Effects d) Insulation Coordination - Electrical Stresses

He was responsible for issuing 765kV Guidelines for Supervisory Personnel, Aerial Lift Procedure Manual, Revision of the Electrical Section of the AEP Safety Manual. N. Kolcio has initiated and coordinated the design and application of Field Recording Stations (RI, TVI and AN; 1969-1982). As Chairman of AEP's IPE Task

Force, he was responsible for coordinating work on engineering safety considerations related to live line maintenance on 34.5kV and other distribution voltages. N. Kolcio made numerous lectures and presentations on topics related to electrical aspects of safety and maintenance practices before transmission and distribution personnel of the former AEP Operating Companies. Conducted work (1977-84) with the University of Western Ontario related to the psychoacoustics of corona noise from transmission lines.

N. Kolcio has worked on and has issued guidelines for testing of insulating protective equipment, such as insulating gloves, sleeves, blankets, line guards, line hoses, insulating footwear and other. . He was obtained a U. S. patent on testing of insulating gloves and another U. S. patent for design of protective cover-up for 69 kV work. In 1988, he was responsible for organizing and conducting field tests and overcurrents on a 14.kV distribution lines. He has served as an Advisor to National Standards Institute on studies related to psychoacoustics of corona noise. As a chairman of IEEE Radio Noise and Corona Subcommittee for seven years, Mr. Kolcio coordinated work ( field and laboratory studies) leading to several IEEE standards on radio noise, corona loss, TVI, and audible noise generated from EHV lines and equipment.

#### 1965 - 1976

AEP. As an Electrical Research Engineer, Mr. Kolcio's responsibilities were to conduct R&D investigations on subjects related to safety, live line maintenance and corona effects. Between 1962-1976, he was AEP's coordinating engineer at the Apple Grove 750 kV Test Research Project. There, Mr. Kolcio initiated and coordinated a series of studies on the effects of corona (RI, TVI, Corona Loss and AN). These studies led to the design of the first 500 kV and 765 kV lines in the U. S.

#### 1962 - 1965

AEP As an Associate Electrical Engineer, Mr. Kolcio assisted and participated in a number of research projects related to the development of live line maintenance methods, insulation coordination of 765 kV lines, and corona effects up to 765 kV level. He has received an AEP award for his work in developing the "barehand" live line maintenance method.

## AWARDS

### 1)IEEE

IEEE Fellow "for contributing to safety in live line work, and corona performance of overhead lines" 1992; Certificate of Appreciation, 1978,- chairman Radio Noise and Corona Subcommittee; Working Group Recognition Award, 1987; PES Working Group Recognition Award for Outstanding Technical Report, 1993.

### 2)AEP

a)1965 AEP award for developing the "barehand live line maintenance method".

b)1986 AEP award for development of test method for insulating gloves

## PROFESSION AFFILIATIONS:

### I. IEEE - Power Engineering Society - LIFE FELLOW of IEEE

A) Transmission and Distribution Committee - Member since 1970

#### 1)

T&D Administrative Subcommittee - Member 1975-86

WG "Coordination of Environment, Safety and Public Affairs" -Chairman 1977-86

#### 2)

Corona and Electric Field Subcommittee (Formerly Radio Noise and Corona Subcommittee) - Member since 1965 . Chairman 1970-1977

WG # 1 - "AC Lines" - Chairman 1965 - 1970

WG # 2 - "Instrumentation and Measurements" - Member 1967 - 76

WG #3 - "Line Design and Analysis " - Member 1970 - 76

WG on Corona Effects - Member 1970 - 80

WG on Design & Environmental Consideration - Member

#### 3)

"Live Line Maintenance Task Force," T, P&C subcommittee - Member 1967 - 1975

#### 4)

Engineering in Safety, Maintenance and Operation of Lines Subcommittee (ESMOL) - Founding Member since 1975

WG "Analytical Considerations," ESMOL Subcommittee - Chairman 1976 - 86

Special Task Force on "Guide for Maintenance Methods on Energized Power Lines" - Member

#### B

PES Public Affair Subcommittee - T&D Representative Member 1979 - 87

### II.

American National Standard Institute, Committee C63, "Electromagnetic Compatibility" - Member since 1977

#### A)

Subcommittee # 1 - Techniques and Development - Member since 1977

#### B)

Subcommittee # 2 - RIV Techniques - member since 1973

III.

CIGRE Study Committee 36 "Interference"

WG # 1 - "Corona and Fields" - Member 1970 - 86

IV.

International Electrotechnical Commission (IEC)

A)

IEC- Technical Committee 78 "Tools for Live Working"

U.S. Technical Advisor 1976 - 1984

- Member U.S. Advisory Group since 1976

- Member WG #3 "Protective Equipment"

- U.S. Member Expert to WG #3, 1987 -

- Reporter (Chairman) of a "Special Working Group on Dielectric Testing," 1989 - 94

B)

IEC - Technical Committee 77 Electromagnetic Compatibility Between Electrical Equipment Including Networks" - Member of U. S. Advisory Group since 1977

V. IEC/CISPR (International Special Committee on Radio Interference) Subcommittee C, "Interference from Overhead Power Lines, High Voltage Equipment and Electric Traction Systems" - Member of U.S. Advisory Group since 1977

VI.

Edison Electric Institute (EEI)

A)

Transmission and Distribution Committee

- "Ad Hoc Committee on Live Line Maintenance" Member 1976 - 1978

- EEI-OSHA Task Force

Worked with this group on items related to the proposed OSHA Maintenance Standard.

Testified on clearances during OSHA Hearings on Maintenance Standard, Washington, D. C., December 3-4, 1989.

B)

Standards Committee EEI Technical Contact 1983 - 86 to: IEC TC - 78 , IEC TC - 77  
CIGRE 36, ANSI - C63 & CISPR Subcommittee C.

VII.

American Society for Testing and Materials (ASTM) - Member since 1988 .

- Member of ASTM-F18 Committee "Electrical Protective Equipment for Workers". Chairman of Task Force F-18.35.22 "Protective Shields/Barriers on Live Line Tools to Protect Workers From Electric Arc Thermo and Fragmentation Pressure Wave Blast"

PUBLICATIONS:

A)  
IEEE - ANSI

1)  
E. R. Taylor, Jr., N. Kolcio and W. E. Pakala, "The Apple Grove 750 kV Project -  
775 kV Radio Influence and Corona Loss Investigation," IEEE Trans. Power  
Apparatus and Systems, Vol. PAS-84, pp. 573-579, July, 1965.

2)  
E. R. Taylor, Jr., W. E. Pakala and N. Kolcio, "The Apple Grove 750 kV Project -  
515 kV Radio Influence and Corona Loss Investigation," IEEE Trans. Power

Apparatus and Systems, Vol. PAS-84, pp. 561-573, July, 1965.

3)  
N. Kolcio, V. Caleca, S. J. Marmaroff and W. L. Gregory, "Radio Noise and  
Corona Loss Aspects of AEP 765 kV Lines," IEEE Trans. Power Apparatus and  
Systems, Vol. PAS-88, pp. 1343-1355, September, 1969. The data presented and  
analyzed in this paper were the main basis used by AEP in selecting a conductor

arrangement for its 765 kV system.

4)  
V. L. Chartier, D. F. Shankle and N. Kolcio, "The Apple Grove 750-kV Project:  
Statistical Analysis of Radio Influence and Corona-Loss Performance of

conductors at 775-kV, "IEEE Trans. Power Apparatus and Systems, Vol.



PAS-89, No. 5, pp. 867-881, May/June, 1970.

5)

N. Kolcio, "EHV Transmission Line corona Effects - Part IV - Audible Noise, "

IEEE Tutorial Course, 72-CHO-6445-PWR, 1972. A comprehensive description

of audible noise from transmission lines.

6)

Audible Noise Task Force of the Radio Noise Subcommittee of the IEEE t&D

Committee, "A Guide for the Measurement of Audible Noise from Transmission

Lines," IEEE Trans. Power Apparatus and Systems, Vol. PAS-91, pp. 853-856, May/June, 1972. N. Kolcio chaired the Subcommittee and contributed to the paper.

7)

IEEE Committee Report, N. Kolcio and Task Force, "Live Line Maintenance

Methods," IEEE Trans. Power Apparatus and systems, Vol. PAS-92, pp.

1042-1048, September/October, 1973. N. Kolcio was the leading author of this

publication which presented a basis from which working clearances and methods

can be developed.

8)

C. W. Juetten and Task Force (including N. Kolcio), "Comparison of Radio Noise

Prediction Methods With CIGRE/IEEE Survey Results," IEEE Trans. Power

Apparatus and Systems, Vol. PAS-92, No.3, pp. 1029-1042, May/June, 1973. N.

Kolcio was the initiator of the survey and contributed to the paper.

9)

N. Kolcio, B. J. Ware, R. L. Zagier, V. L. Chartier and F. M. Dietrich, "The Apple

Grove 750 kV Project Statistical Analysis of Audible Noise Performance of

Conductors at 775 kV," IEEE Trans. Power Apparatus and Systems, Vol.

PAS-93, pp. 831-840, May/June, 1974.

10)

N. Kolcio, "Power Line Noise as Related to Psychoacoustics," Part 3.

"Psychoacoustics," IEEE Special Publication 74-CHO-967-O-PWR. N. Kolcio

was the initiator and the coordinator of the workshop.

11)

N. Kolcio and Task Force, "Audible Noise from Power Lines - Measurement,

Legislative Control and Human Response," IEEE Trans. Power Apparatus and

Systems, Vol. PAS-94, No. 6, pp. 2042-2048, November/December, 1975. N.

Kolcio was a coauthor of the paper and coordinated the work on paper

preparation.

12)

IEEE Standard, "IEEE Standard Procedures for the Measurement of Radio Noise

from Overhead Power Lines," IEEE Standard 430, 1976. N. Kolcio chaired the

Subcommittee and spearheaded the work on the Standard.

13)

N. Kolcio, J. Diplacido and F. M. Dietrich, "Apple Grove 750-kV Project Two

Year Statistical Analysis of Audible Noise from Conductors at 775-kV and

Ambient Noise," IEEE Trans. Power Systems Apparatus and Systems, Vol.

PAS-96, No. 2, pp. 560-570, March/April, 1977. This paper was the first in the

world to present audible noise data from full scale 3-phase test lines.

14)

N. Kolcio, J. Diplacido, R. J. Hass and D. K. Nichols, "Long Term Audible Noise

and Radio Noise Performance of American Electric Power's Operating 765kV

Lines," IEEE Trans. on Power Apparatus and Systems, Vol. PAS-98, No. 6,

November/December, 1979.

15)

ANSI Standard, "Specification for Electromagnetic Noise and Field Strength

Instrumentation 10 kHz-1 GHz, " ANSI C63.2, 1980. N. Kolcio, IEEE PES

Representative, contributed to the preparation of the Standard.

16)

E. A. Cherney, K. G. Ringler, N. Kolcio and G. K. Bell, "Step and Touch

Potentials at Faulted Transmission Tower," IEEE Trans. Power Apparatus

Systems, Vol. PAS-7, July, 1981, pp. 3312-3321. N. Kolcio organized and

conducted the tests and coauthored the paper.

17)

IEEE Committee Report, "Qualification Testing of Insulated Aerial Devices

Rated 69 kV and Below," IEEE Trans. Power Apparatus Systems, Vol. PAS-101,

No. 6, June, 1982. N. Kolcio chaired the IEEE Working Group and was the lead

author.

18)

N. Kolcio and R. A. Peszlen, "Electrical Aspects of Testing Insulating Gloves,"

IEEE Trans. Power Apparatus Systems, Vol. PAS-102, No. 7, July, 1983, pp.

2364-2368.

19)

N. Kolcio and R. A. Peszlen, "Humidity Effects and Breakdown Characteristics of

Class II Insulating Gloves," IEEE Trans. Power Apparatus Systems, Vol.

PAS-103, No. 8, August, 1984.

20)

N. Kolcio, "Field Measurements of Leakage Current in Insulating Gloves," IEEE

Trans. Power Apparatus Systems, Vol. PAS-104, No. 9, September, 1985.

21)

"IEEE Guide for Maintenance Methods on Energized Power Lines," ANSI/IEEE

Standard 516-1987. N. Kolcio was a member of a Task Group responsible for

preparation of the Standard. Initially he chaired a group with prepared Section 3,

“Technical Consideration and Testing.”

22)

Committee Report, “IEEE Guide on Terminology for Tools and Equipment to be

Used in Live Line Working,” ANSI/IEEE Std. 935-1989. N. Kolcio is a member

of the Definition Working Group instrumental in the preparation of the Standard.

23)

N. Kolcio, Discussion of “Test Results of Personal Protective Grounding on

Distribution Line Wood Pole Construction,” by J. T. Bowner, B. Erga, W. W.

Gibles and V.M. Gregorius, Discussion published in IEEE Trans. on Power

Delivery, Vol. 4, No. 2, April, 1989.

24)

A. Nourai and N. Kolcio, “Electrical Testing of Insulated Aerial Lifts for

Contamination Using Capacitive Current Compensation Technique,” IEEE

Transactions Power Delivery Apr. 1990 Vols. No. 2 (ISSN 0885-8977).

25)

N. Kolcio, J. A. Halladay, G. D. Allen, E. N. Fromholtz “Transient Overvoltage

and Overcurrents on 12.47 kV Distribution Lines: Field Test Results,” IEEE

Transactions on Power Delivery, July, 1992, Vol. 7, No. 3, ITPDE 5.

26)

N. Kolcio, J. A. Halladay, G. D. Allen, E. N. Fromholtz “Transient Overvoltages

and Overcurrents on 12.47 kV Distribution Lines: Computer Modeling Results,”

IEEE Transaction Paper presented during 1992 Winter Power Meeting. New

York City, 92 WPM 273-3 PWRD.

27)

G. Gela, N. Kolcio and Task Force 15.07.03.02 members of IEEE, PES - T&D

ESMOL Subcommittee "Correlation of AC, switching surge and DC Breakdown

Test Results For Insulating Blankets and Line Hoses" IEEE Transaction Paper,

91 SM 502-5 PWRD.

28)

J. A. Barsch, S. A. Sebo, N. Kolcio "Power Frequency AC Sparkover Voltage

Measurements of Small Air Gaps" submitted to IEEE, May 1998.

29)

IEEE Guide "IEEE Guide For Installation, Maintenance and Operation of

Irrigation Equipment Located Near or Under Power Lines". The guide was

prepared by PES, T&D, C&EF Taskforce chaired by N. Kolcio, 1997.

B)

CIGRE

1)

N. Kolcio and C. H. Shih, Discussion on CIGRE Paper 23-06 - 1972, "Influence

of the Electric Field in 500 and 750 kV Switchyards on Maintenance Staff and

Means for Its Protection,” by V. P. Korogkova, et al. The discussion presents

AEP’s experience with electric field effects from 345 kV and 765 kV lines.

2)

Committee Report, “Interference Produced by Corona Effects of Electric

Systems,” Description of phenomena and practical guide for calculations, CIGRE,

1974. CIGRE Committee 36, Working Group 01. N. Kolcio as the USA

representative coauthored the report.

3)

F. M. Dietrich and N. Kolcio, “Corona Electric Field Effects at the Apple Grove

Project and in 800-kV Line in the USA,” CIGRE No. 31-08, 1976.

C)

IEC (International Electrotechnical Commission)

N. Kolcio, “Harmonization of Test Voltages for Live Working Tools and Equipment,”

U. S. National committee to IEC Position Paper TC-78, “Tools for Live Working”.

Prepared for General Meeting held in Dubrovnik, Yugoslavia, April 13-14, 1989.

D)

Other Publications

1)

J. A. Barsch, S. A. Sebo, N. Kolcio “Partial and Full Breakdown of Various

Electrodes at AC in Small Air Gaps”, International Conference on Dielectrics and

Insulation 10-13, September 1997, Budapest, Hungary.

2)

T. Rao, N. Kolcio "Guidelines For Installation and Maintenance of Irrigation

Equipment Near Power Lines", ASAE, June 19, 1994, Kansas City, Missouri,

Paper No. 943012.

E)

Trade Magazines

1)

H. L. Rordon and N. Kolcio, "First 765 kV Line Scheduled for Live Line

Maintenance, "Electric Light and Power, April, 1967.

2)

Kolcio, "Accurate Data Essential for Reducing RI and TVI," Electrical World,

January 1, 1975, p. 45. Part of E.W. Engineer's Forum. The article lists methods

and procedures for RI and TVI measurements.

3)

A. Nourai and N. Kolcio, "Resistive Leakage Defines Aerial-Lift Contamination,"

Electrical World, October, 1989.

4)

N. Kolcio, "Insulation Requirements Revised for LV Work" Transmission and

Distribution World, February, 1997.

## U. S. PATENTS

Mr. N. Kolcio holds the following U. S. patents:

1) U. S. Patent No. 4,583,039 Electrical Testing Device for Insulating Gloves April 15, 1986



2) U. S. Patent No. 4,628, 145 Protective Cover for Electrical Conductors, December 9, 1986

**NESTOR KOLCIO, P. E.**

11500 Jerome Road  
Plain City, OH 43064  
(614) 873-6473  
E-mail: nkolcio@att.net

**SUMMARY**

Professional Engineer with 40 years' experience in maintenance engineering, safety, high voltage practices, insulation coordination, national, and international standards.

In the area of **personal protective equipment**, such as insulating rubber gloves, sleeves, blankets, line hoses, line guards, insulating footwear, and other, Mr. Kolcio conducted research, published technical papers, conducted technical seminars and lectures, prepared safety rules and issued work guidelines. He is a member of several technical and scientific societies, as well as national and international standards organizations.

**PROFESSIONAL EXPERIENCE**

Related to

**Personal Protective Equipment**

**1. AMERICAN ELECTRIC POWER, Columbus, OH**

**1962-2000**

***Principal Engineer***

Consulted with AEP operating companies on maintenance, engineering, safety, insulation coordination and national and international standards related to personal protective equipment. He investigated accidents dealing with rubber gloves and other personal protective equipment and issued special technical reports. In the case of rubber gloves, he chaired special task forces and issued a number of reports and guidelines and was responsible for introducing to AEP operating companies:

- A. Insulating Gloves (Class 4), in-service testing and work practices for live working at 36 kV.
- B. Insulating Gloves (Class 0 and Class 00), in-service testing and work practices for live working at 1 kV and below.
- C. Guidelines for use of Class 00 gloves in power plants and substations.

**Publications related to insulating rubber gloves:**

N. Kolcio and R. A. Peszlen, "Electrical Aspects of Testing Insulating Gloves," IEEE Trans. Power Apparatus Systems, Vol. PAS-102, No. 7, July, 1983, pp. 2364-2368.

N. Kolcio and R. A. Peszlen, "Humidity Effects and Breakdown Characteristics of Class II Insulating Gloves," IEEE Trans. Power Apparatus Systems, Vol. PAS-103, No. 8, August, 1984.

N. Kolcio, "Field Measurements of Leakage Current in Insulating Gloves," IEEE Trans. Power Apparatus Systems, Vol. PAS-104, No. 9, September, 1985.

"IEEE Guide for Maintenance Methods on Energized Power Lines," ANSI/IEEE Standard 516-1987. N. Kolcio was a member of a Task Group responsible for preparation of the Standard. Initially he chaired a group with prepared Section 3, "Technical Consideration and Testing."

N. Kolcio, "Harmonization of Test Voltages for Live Working Tools and Equipment," U. S. National committee to IEC Position Paper TC-78, "Tools for Live Working". Prepared for General Meeting held in Dubrovnik, Yugoslavia, April 13-14, 1989. Presentation included study of glove classification and test requirements.

N. Kolcio, "Insulation Requirements Revised for LV Work" Transmission and Distribution World, February, 1997.

### U. S. PATENTS

Mr. N. Kolcio holds the following U. S. patents:

U. S. Patent No. 4,583,039 Electrical Testing Device for Insulating Gloves April 15, 1986

U. S. Patent No. 4,628, 145 Protective Cover for Electrical Conductors, December 9, 1986

### **2. Electric Power Research Institute (EPRI) Project on Injection Molded Insulating Gloves.**

**1992-2000**

Mr. Kolcio consulted for EPRI as an industry expert . He planned and conducted technical investigations, prepared reports and made presentations before AEP and EPRI Management.

### **3. Electric Power Research Institute (EPRI) Project on Live Working on DC Lines Operating Less Than 60 kV DC**

**2001-2002**

Mr. Kolcio consulted for EPRI as an industry expert . He prepared a report that included the use and testing of insulating gloves from 50V to 47 kV DC.

### **4. PROFESSION AFFILIATIONS related to work on insulating gloves:**

#### **IEEE - Power Engineering Society - LIFE FELLOW of IEEE**

Transmission and Distribution Committee - Member since 1970

WG "Coordination of Environment, Safety and Public Affairs" -Chairman 1977-86

"Live Line Maintenance Task Force," T, P&C subcommittee - Member 1967 - 1975

Engineering in Safety, Maintenance and Operation of Lines Subcommittee (ESMOL) - Founding Member since 1975

WG "Analytical Considerations," ESMOL Subcommittee - Chairman 1976 - 86

Special Task Force on "Guide for Maintenance Methods on Energized Power Lines" - Member

#### **International Electrotechnical Commission (IEC)**

##### **IEC- Technical Committee 78 "Tools for Live Working"**

- Member U.S. Advisory Group since 1976

- Member WG #3 "Protective Equipment" (includes insulating gloves)

- U.S. Expert to WG #3, since 1987 -

- Reporter (Chairman) of a "Special Working Group on Dielectric Testing," 1989 - 94

**American Society for Testing and Materials (ASTM) - Member since 1988 .**

- Member of ASTM-F18 Committee. Mr, Kolcio prepared revisions to standards : ASTM D120 -95 "Standard Specifications for Rubber Insulating Gloves", ASTM F 496 -01 "Standard Specifications for In- Service Care of Insulating Gloves and Sleeves", and ASTM F1236-96 "Standard Guide for Visual Inspection of Electrical Protective Rubber Products".

**INTERNATIONAL ELECTROTECHNICAL COMMISSION  
US Technical Advisor 1976-1984**

Organized and coordinated U.S. Industry responses to international standards to IEC-TC78, "Live Line Working" (includes standards on insulating gloves). Organized and lead U.S. Advisory Group during International Meetings.

**5. EDUCATION**

**Power Technology Course – Power Technology I Certified**  
**Columbia University, New York City, NY**  
Graduate work in Power  
**West Virginia Institute of Technology, Montgomery, WV**  
Bachelor of Science in electrical Engineering

**6. CERTIFICATIONS**

Professional Engineer License

**7. PUBLICATIONS AND PROFESSIONAL ACTIVITIES**

**Life Fellow**, Institute of Electrical and Electronic Engineers – Power Engineering Society  
American Society of testing and Material F18 Committee  
IEEE PES Representative on American National Standards (ANS) C63 Committee  
Authored and co-authored over 37 IEEE Papers and other publications

**8. PERSONAL DEVELOPMENT**

Completed course "Owner of the Business"

**NOTE : *For further information, please refer to Mr. Nestor Kolcio, PE complete Resume.***